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CLAIMS

1. A sewing machine comprising:

an arm including a vertical portion and a horizontal portion having at least one sewing needle mounted thereon;

a bed extending in parallel to said horizontal portion of said arm under said horizontal portion;

two first rails extending in parallel to said bed in the neighborhood of the side portion of said vertical portion of said arm;

first carriages adapted to slide on said first rails, respectively;

a second rail connected to said first carriages and perpendicular to said first rails, the distance between said two first rails is shorter than or equal to the length of said second rail;

a second carriage adapted to slide on said second rail; and

a embroidery frame unit mounted on said second carriage on the side portion of said second rail located far from said vertical portion of said arm;

wherein said first carriages are located on one side of said second rail, and said embroidery frame unit is located on the other side of said second rail.

2. A sewing machine according to claim 1,

wherein said first carriages are each an elongate member located in the same direction as said first rails, and an end of each of said first carriages is adapted to slide on the corresponding one of said first rails, while the other end of each of said first carriages is connected to said second rail.

3. A sewing machine according to claim 1 or 2,

wherein said first rails are arranged in the neighborhood of said bed.

4. A sewing machine according to any one of claims

1 to 3,

wherein said arm has a unilateral open structure.

5 5. A sewing machine according to any one of claims 1 to 4,

wherein said arm and said bed are formed integrally.

6. A sewing machine according to any one of claims 1 to 5,

10 wherein said second rail includes a slide support unit adapted to support said second rail slidably in the same direction as said first carriages.

7. A sewing machine according to claim 6, further comprising a third rail arranged on said bed for said
15 sliding support unit.

8. A sewing machine comprising:
an arm including a vertical portion and a horizontal portion having at least one sewing needle mounted thereon;

20 a bed extending in parallel to said horizontal portion of said arm under said horizontal portion;

two first rails extending in parallel to said bed in the neighborhood of the side portion of said
25 vertical portion of said arm;

first carriages adapted to slide on said first rails, respectively; and

a second rail connected to said first carriages and perpendicular to said first rails, said
30 second rail being longer than the distance between said two first rails;

a second carriage adapted to slide on said second rail; and

35 a embroidery frame unit mounted on said second carriage on the side portion of said second rail located far from said vertical portion of said arm;

wherein said second rail is separable

alone or in combination with said second carriage and/or said embroidery frame unit.